SELF CONTAINED DEVICE FOR DISPLAYING ELECTRONIC INFORMATION

This U.S. utility patent application is a continuation-in-part of, and claims priority to, U.S. Ser. No. 10/828,406, filed Apr. 19, 2004, which is now U.S. Pat. No. 7,242,315, issued Jul. 10, 2007.

BACKGROUND OF THE INVENTION

A. Field of Invention

This invention pertains to the art of methods and apparatuses of displaying information on a thin, flexible display and more specifically to displaying dynamic video in a magazine or periodical.

B. Description of the Related Art

It is known in the art to publish various types of documents such as periodicals, magazines, manuals and the like. Typically, such published documents are printed on flexible pages, which may be comprised of varying paper thicknesses or weights. As is well known in the art, frequently pictures and/or words are arranged on the individual pages of the published document, which may be bound together at a binding. In any case, such published documents are widely known and publicly available for purchase on numerous topics. In a similar manner, instruction manuals are frequently printed with images and/or verbiage for use in guiding a user, for example, through a set up procedure for a purchased item. In all of these printed documents, the data displayed thereon is purely static in that the images do not move but rather are displayed in the typical form as is well known in the art. There are limitations of the static information printed on a flexible page to convey information to the user or viewer. Therefore, it would be useful to convey dynamic information in the form of video and/or audio signals to the user viewing a periodical, magazine, or instruction manual.

The present invention provides methods and apparatuses for displaying such dynamic information in a flexible periodical or manual.

SUMMARY OF THE INVENTION

One aspect of the present invention includes a method for displaying information in a magazine, the steps comprising: providing one or more adjacent flexible pages bound together at a binding; providing a flexible self-contained information displaying means, the self-contained information displaying means including: an electronic display membrane, control circuitry operatively communicated to the electronic display membrane for use in electronically displaying information on the electronic display membrane, and, at least a first power cell operatively communicated to the control circuitry and display membrane for use in supplying power to the control circuitry; affixing the electronic display membrane to one of the flexible pages; and, automatically displaying at least a first electronically preprogrammed information message on the electronic display membrane.

Another aspect of the present invention includes a step of providing a flexible self-contained information displaying means, the self-contained information displaying means further comprising: a sensor for use in determining the proximity of a flexible page; and, wherein before the step of automatically displaying at least a first electronically preprogrammed information message on the electronic display membrane, the step further comprising: sensing the turning of a flexible page adjacent to the electronic display membrane.

Another aspect of the present invention includes a step of: affixing the control circuitry to the binding.

Another aspect of the present invention includes a step of: affixing the control circuitry to one of the flexible pages.

Another aspect of the present invention includes a step of providing a flexible self-contained information displaying means further includes: electronic information storage means.

Another aspect of the present invention includes a step of: selectively communicating the electronic information storage means to the control circuitry.

Another aspect of the present invention includes a step of selectively communicating the electronic information storage means to the control circuitry, the step further comprising: preprogramming the electronic information storage means.

Another aspect of the present invention includes a step of providing a flexible self-contained information displaying means, the self-contained information displaying means further comprising: an electronic data receiving port operatively communicated to the control circuitry; and, further comprising the step of: selectively operatively communicating the electronic information storage means to the control circuitry, and, programming the electronic information storage means via electronic data receiving port.

Another aspect of the present invention includes a magazine, comprising: at least first and second flexible pages bound together at a binding; a thin electronic display membrane fixedly attached to the first flexible page; electronic control circuitry operatively communicated to the electronic display membrane; at least a first power cell operatively communicated to the electronic control circuitry for use in supplying power to the electronic control circuitry.

Another aspect of the present invention includes a magazine, further comprising: electronic information storage means selectively removable with respect to the electronic control circuitry.

Another aspect of the present invention includes a magazine, further comprising: user interface means operatively communicated to the electronic control circuitry.

Another aspect of the present invention includes a magazine, further comprising: sensor means for use in determining the proximity of the at least a first flexible page with respect to the at least a second flexible page.

Another aspect of the present invention includes a magazine, further comprising: audio transmitting means operatively communicated to the electronic control circuitry.

Another aspect of the present invention includes a magazine, wherein the audio transmitting means is a speaker.

The present invention utilizes an apparatus and claimed methods for a flexible display membrane, and affixing the flexible membrane to various items. In one embodiment, the display includes a membrane which is flexible and which may be affixed to the page as mentioned. Subsequently, the display may include control circuitry also fashioned in a flexible manner and a power source again which may be thin and flexible all of which may comprise the basic flexible display. Additional items may be included in the display including the communications port sensor means and audio transmitting means. The display may be affixed to the page of a periodical as mentioned for use in displaying dynamic information or video. Preprogrammed video messages may be stored in the memory of the control circuitry or display on the flexible membrane.

Still other benefits and advantages of the invention will become apparent to those skilled in the art to which it pertains upon a reading and understanding of the following detailed specification.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention may take physical form in certain parts and arrangement of parts, at least one embodiment of which will